

## Nonlinear gravitational waves in plasma

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### Abstract

An exact solution is obtained for the relativistic collisionless kinetic equations describing a test plasma in the field of a strong plane gravitational wave. The gravitational wave induces in the plasma a longitudinal electric current whose amplitude is maximum at temperatures  $T_e \approx m_e c^2/kT$ . The interaction of gravitational waves with a system consisting of Boltzmann ions and degenerate electrons is also considered. © 1982 Plenum Publishing Corporation.

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